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Google Scholar Adoption by LIS Educators in India: An Exploratory Study

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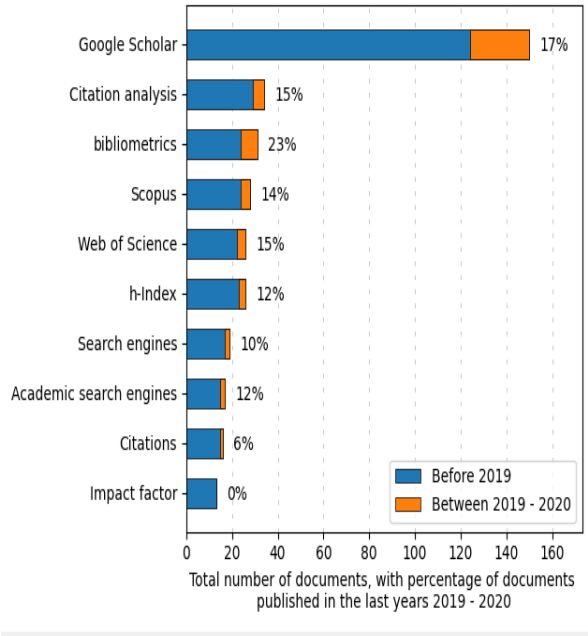
Abstract

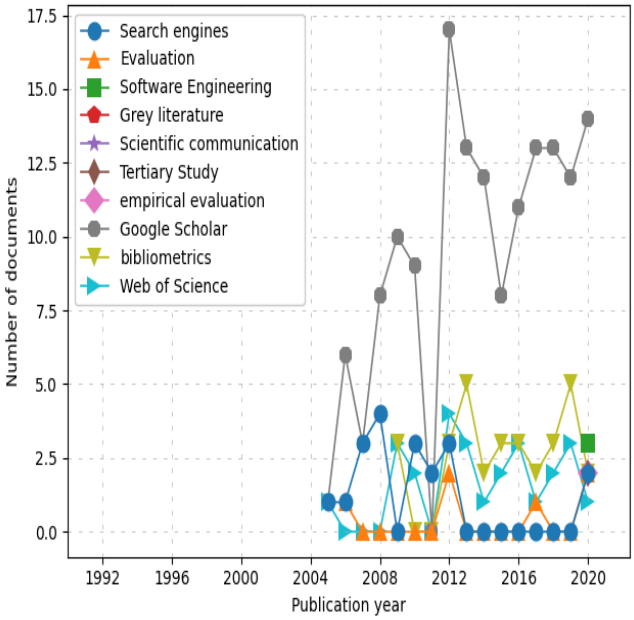
Google Scholar (GS) is one of the popular online databases fulfilling the research needs of academicians by providing an open and freely accessible platform for searching scholarly research along with basic research metrics (citations, h-index, i10, etc.) to assess productivity of an author or researcher. Now that GS is being used to measure the research performance of individual's as-well-as institutions, it becomes very important to maintain a verified profile. This paper aims to analyse dual inter-related issues. Quantify LIS schools in India are the primary focus area of the study. Secondly, the scenario of LIS educators of India under GS will be evaluated. It also presents the accurate status of Indian universities (government) imparting LIS education and to investigate how many faculties of those universities are using Google scholar account for showcasing their research productivity. The study unveils those educators (LIS) whose articles are scattering under GS database but due to unavailability of profile GS can't compute scientometric data for them. As per the VIDWAN database - an expert database developed by INFLIBNET, many LIS educators do not have their own Google scholar ID. In India out of 470 govt universities about 129 have LIS schools. Total 324 LIS educators are recruited under those universities. Only 206 educators possess own GS profile. Hence, the GS profile adoption ratio between Indian LIS educators is not impressive. This study can give an overview of the above-mentioned dual topics in details latter.

Keywords: Google Scholar, LIS Schools, Academic Search Engine, h-index, i10 Index, Citation,

Introduction:

Academic search engines (ASE) help researchers retrieve academic or research-related information from the World Wide Web by applying built-in filters discarding the non-academic content while displaying search results. This enhances the efficiency of researchers as they obtain relevant information minus the noise. Google Scholar (GS) is a very popular, free, and open ASE used globally by the academic community, although various paywalled databases including Scopus and Web of Science (WoS) are also being used heavily. GS provides a clean search interface along with the provision of advanced search and creation of author profiles and various types of alerts. The reason for its wider popularity is the fact that anyone with Internet access can use it without the requirement of any subscription. One more and perhaps equally applicable reason is its liberal indexing policy – including conferences, book chapters, and almost any journal irrespective of their cite score (Scopus) or impact factor (WoS). The author profile in GS provides information like citation and h-index which is also included in the institutional ranking. National Institutional Ranking Framework (NIRF), Govt. of India also ranks universities and educational institutions by considering the productivity of faculties. To calculate combined matrices of publication of faculties under a university NIRF consider the last three years publications that are retrieved from internationally available bibliographic and citation databases like- SCOPUS, Web of Science, and Google Scholar. GS has been discussed widely by the scholars globally. A Scopus database search on the term “google scholar” gives 23,834 document results under TITLE-ABS-KEY ("google scholar") results while 401 document results using “Article TITLE” field.





Fig, 1 total number of published documents in 2019-20	Fig, 2 Year wise documents on different topics

Trends exhibits the popularity of GS between educators and scholars as GS was being discussed since 2004 as an emerging topic. **Figure 1 & 2** decodes the past & present scenario of GS acceptance as a popular topic for evaluation by writing, among other inter-related topics.

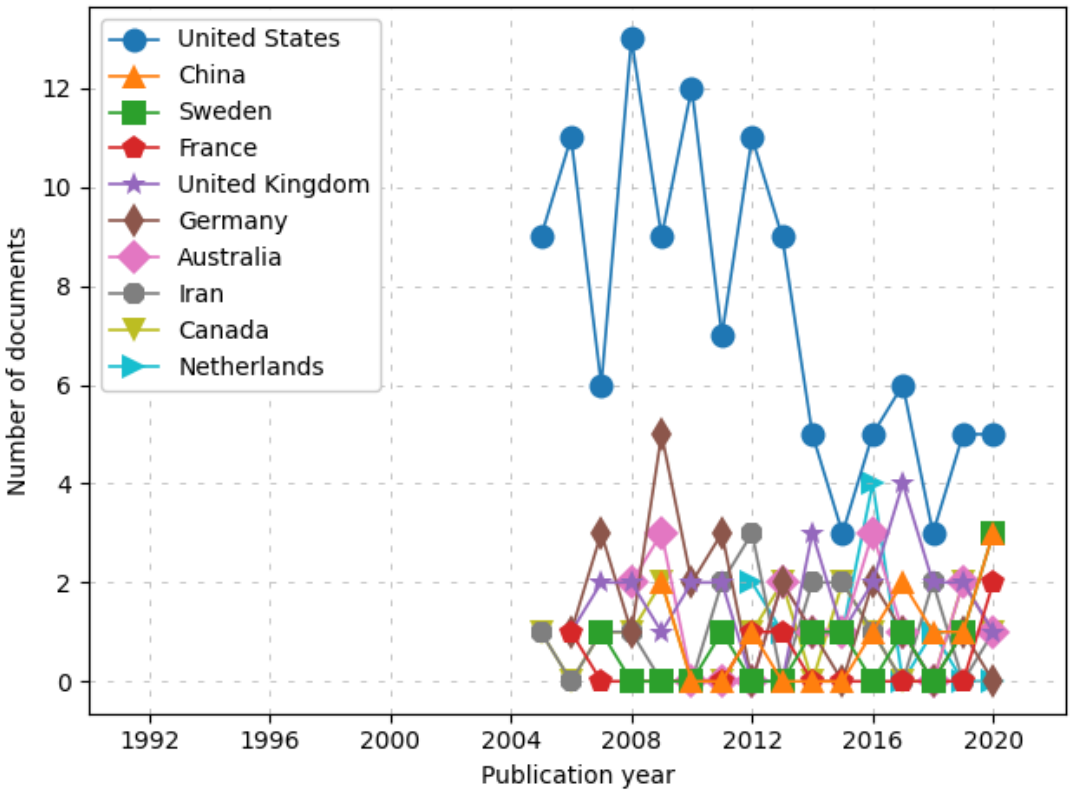


Fig 3, Country wise publication discussing about GS

As per **Figure 3,** among the nations, United States is the only prominent country were authors are publishing documents about GS since 2004. Whereas, the educators & researchers of the countries like China, Sweden, France, UK, Germany, Australia, Iran, Canada and Netherland have produced lesser research pertaining to GS.

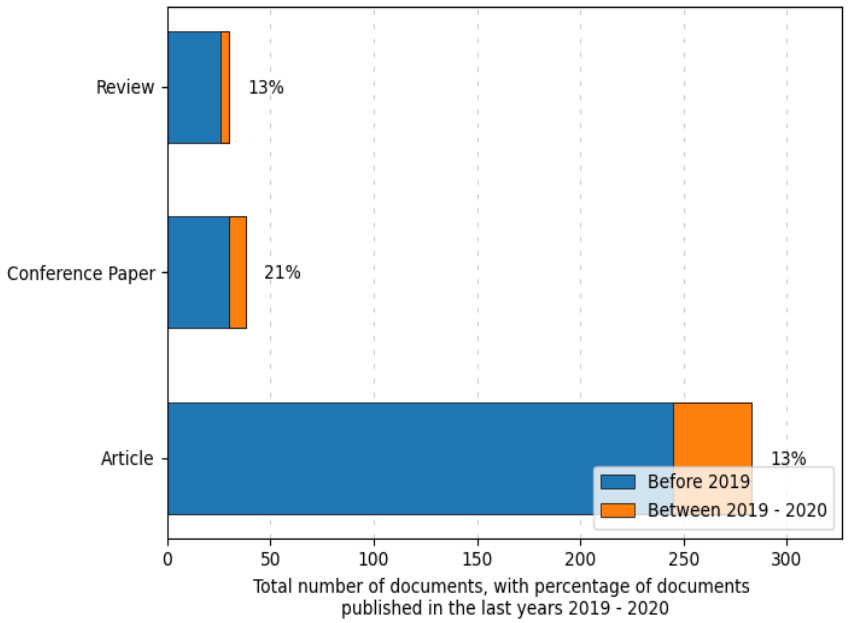


Fig 4, Types of documents discussing about GS in 2019-20

GS is discussed mostly in the form of article between the years of 2019-20. Number of Conference paper & Review related to GS are respectively second and third in that row as GS is less discussed in those two forms based on the bars of **Figure 4**.

Higher Education Schools of India:

In India**,** as per the UGC Consolidated List about 958 universities are providing higher education legally. Out of those universities only 54 central universities and 416 state universities are scattered in different places of India. However, except state & central universities about 488 universities are deemed to be university or private universities. Fact shows only 44% state universities, 5% central universities, 13% Deemed Universities and 38% Private Universities have the legal right to offer higher education in India. Some Universities are also providing affiliations to colleges for escalating higher education system in India. Funding & maintaining authorities of those higher education schools are not same. Some universities & colleges are funded by private organizations and some universities are funded by the central govt. or state govt.

Universities	Total No
State Regular	401
State Only Open	15

Central Regular	53
Central Open	1
Deemed to be a university	124
Private	364
Total	**958**

Table 1. Total Number of University-Based on UGC Website as on 11.02.2021

Most of those higher education schools are providing education either regular mode or via open mode. Very few schools are also conducting their education via regular and open mode. All universities based on the mode of education are divided into open and regular as per UGC. Earlier (up to 29.12.2012) all open universities were regulated by Distance Education Council (DEC) but now distance education supervised by Distance Education Bureau (DEB), a wing of UGC.

There are several institutions which are dealing with library and information science (LIS) education in India. Here LIS Institute means several library organizations (e.g. Bengal Library Association.), colleges, and universities which are presently playing pivotal role in LIS education of India. Those LIS schools are focused in the latter part of this paper.

Method of Design Kosher Google Scholar Profile

Righteous Google Scholar (GS) profile is compulsory for educators to evaluate own productivity level with accuracy. Although the study has various findings of inaccurate GS profile, author has to follow the under discussed steps to design an errorless GS profile. However, firstly the author has to create Gmail ID then that ID will be used in GS profile creation. Creation of a proper public GS profile can exhibit the real productivity of an author. In the time of Google scholar profile creation own details have to fill up into under mentioned fields-Name, Affiliation, Area of Interest, Email verification and website. After completion of this step, the author can choose the privacy field regarding the publicly availability of that profile. The field “Email verification” is important for GS profile holders to validate own documents. GS profile holder who possesses large number of documents under the GS database need to verify the email or else the profile will be created but may face some difficulties to make it available publicly. But the field “Email Verification” wants organizational or institutional Email ID (e.g.

yourname@mit.edu) to verify the author's GS profile. After creation of GS profile author should be very much cautious to maintain the profile properly. There are two options concerning updating of profile by adding new articles, one can choose automatic update by which without author's interference automatically GS will add new documents under any profile without verifying the exact document with exact author. Or else an author can choose another option where Google scholar sent the list of articles to GS profile holder's Gmail to get confirmation before adding proper documents under his/her profile. Second option is better for creating an appropriate Google scholar account because here the author is doing the article cleansing part by choosing the right articles from the list of articles. In this process, the chance of adding wrong articles under any account will be minimized. By choosing 'Automatic Profile Updation' an author can unethically increase number of documents, citations and indexes but using this feature of GS an author can't get exact matrices of his profile.

During this process of GS profile creation, author has to face the hurdle of adding articles under the profile. Author need to pay more attention in this stage or else erroneous entry can be fabricated under GS profile. SCOPUS using algorithmic data processing to add exact articles under kosher authors profile [(1)] however GS can't devolve automatic article addition mechanism such a way where an author can blindly rely on it. Instead of trust on auto update, author can choose other three update options to flourish own GS profile by adding accurate content, **figure 5** exhibits those options. The First one '**Add article groups'** is useful for those authors who already have multiple articles under the Google scholar database. Here author can simply search his/ her name to get most of their documents at a glance. However, in this process some ambiguity occurs, after entering proper author name using quotation mark (**eg."Amit Kumar"** Asst. Professor, Mizoram University**)** result exhibits all authors with same name from where author have to select own name with right publications. By verifying those listed publications with the process of marking and unmarking in checkbox beside the title accurate publications can be accumulated under author GS profile. Second one is **'Add Articles'** this field is for adding articles one after another by searching for the proper title with SOR (Statement of Responsibility). Here author also fetch publications

by searching own name under quotation **(eg. "Rupak Chakravarty").** From those publications find out own articles and put them in own GS is another way by which an author can design accurate profile. Here under **Add Articles** and **Add article groups** some uncertainty happens for those authors who are rendering their names (surname & middle name), using different prefixes (Prof., Dr., Shri, Mr.) and changing name's spelling in different publications. In early mentioned situations it will be difficult to find own publications by searching with author name. Third field is for those documents which are not being indexed by GS then an author can do manual entry. However, a manually entered article does not hold citations regarding this it is better to publish documents over websites those follow GS indexing guidelines. In some cases, author bound to do manual entry with exact metadata which is required to create a proper errorless GS profile. An educator can avail the full benefit of using Google scholar profile after adding all articles under own profile (GS).

Scenario of Google Scholar

Google scholar (GS), a free bibliographic database as well as an academic search engine was launched in 2004. Nowadays, this database has worldwide adoptability by scholars and educators to showcase own publications over internet. Different indexing abstracting (I/A) databases like Web of science (WoS), SCOPUS are also serving the same purpose under paywall. Being a free database GS is more over exclusive in nature than WoS and SCOPUS. GS index includes most peer-reviewed online academic journals and books, conference papers, theses and dissertations, preprints, abstracts, technical reports, and other scholarly literature, including court opinions and patents [(2)]. Whereas a strong integration between GS and Google's own search engine improves the appearance of relevant search results from existing articles and helps to improve the number of a citation for authors of those papers. GS index enlists only those journal articles from websites that follow GS inclusion guideline. Inclusion of an article by GS database ensures the retrieval of a document when searched. Indexed articles scattered under GS with citations only by searching under advanced search or basic search with exact keywords of title, can be retrieved. GS

provides profile search option also that exhibit author's intellectual writings furnish with citation and indexes (i10,h).

A complete GS profile displays the number of total documents of an author at the bottom. Each cited publication includes citation value those are calculated automatically to exhibit total citations with indexes. Here, an author can undergo through the value of Hirsch Index (H index) and i10 Index by which it is possible to realize the adoptability and productivity of publications. Here, **Figure 6 re**presents pictographic example of author's bibliometric data under a GS profile. However, GS is not limited to collect citation data, it also arranges those citation data under year wise bar graph for each profile, and **Figure 7** depicts it. Google scholars' ease of use, universal, multilingual, speed, simplicity, and free service to its users contribute to its current popularity [3].

Fig 5, steps to add articles

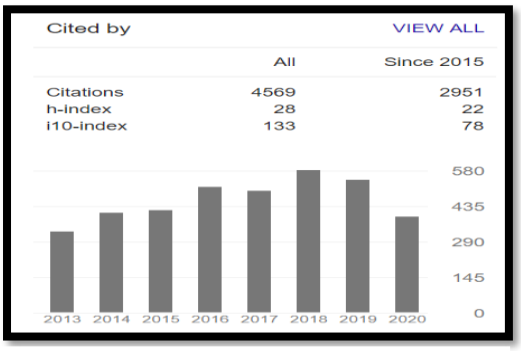


Fig 6, total citations and indexes

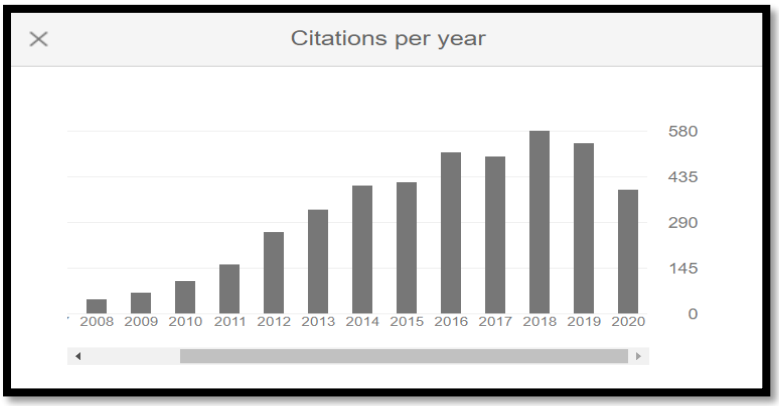


Figure 7, Citation/year view of Google Scholar Profile

Review of Related Literature

Harzing and Alakangas S (2016) in their study revealed that Google Scholar has been used successfully by individual researchers to track their scholarly output and citations and is thought to be as good as many other search engines as a source of bibliometric data notably, once papers have been added to a profile, it can identify new publications by the same researchers. Although Google Scholar has been criticized for being over-inclusive, it is becoming an acceptable academic standard. [4]

García-Pérez (2010); Gehanno, Rollin, and Darmoni (2013) find out Google Scholar, for instance, is a popular source for citation information as it has been shown to have the widest coverage. [5][6] As per Sandnes and Grønli (2018); Sandnes and Brevik (2019) for certain disciplines Google Scholar is the only available source of citation information. [7][8] However, Google Scholar author profiles show all citations without corrections for self-citations. Hirsch (2005); Bornmann and Daniel (2005) told Google scholar also provides the h-index, and the Google scholar h-index is a popular yardstick among researchers. [9][10] If any educator wants to judge their h & i10 index then he or she has to create their profile under the Google scholar database. However, considering pros and cons of GS this study is to calculate the scenario of LIS educators in Google Scholar.

Scope of the Study

The focus area of this study is concentrated on state regular universities as well as central open & regular universities of India those are providing LIS education with permanent educators. This study unveils the visibility pattern of Indian LIS educators in Google Scholar. With LIS educators, all those LIS schools are also being studied to identify the state wise and region wise scattering pattern.

As per University Grants Commission (UGC) list, under these states and UTs total number of 401 state regular universities, 15 state open universities, 53 central regular universities, 1 central open university, 364 private universities, and 124 deemed to be universities are present with affiliation. Those are scattered between 28 states and 8 UTs. Whereas, only 108 state universities and 21 central universities have the school of LIS education. Some private universities are also providing LIS education but those

are out of consideration as most of the private university faculty lists are not proper. Due to attaining the feasibility of the study, it is limited to a particular area by elimination. Total 747 autonomous colleges and 12488 other government & private colleges are out of consideration. However, the study area is limited to the GS visibility of LIS educators of 129 state and central universities as well as one more special institution called Documentation research and training centre (DRTC), a wing of ISI. All educators are included in this study except who was retired from his job or not alive before 2020.

The population of the study will be the Assistant Professors, Associate Professors, and Professors of the state regular and central universities of India providing LIS education mostly regular modes. The number of LIS schools being investigated by this study is 129 based on the university list released on 01.01.2021. Data regarding LIS education was collected and verified by visiting all university websites. All those universities deal with LIS education are scattered under different part of India (eg. northern, southern, north-eastern, central, and eastern). All 324 LIS educators of India will be the population of my study.

Study Objectives

i. To calculate the total number of state and central governmental LIS schools in India.
ii. To find out state-wise and zone wise distribution of LIS schools in India.
iii. To figure out the total number of permanent LIS educators of India recruited under different central universities and state universities.
iv. To indicate states and UTs those are not providing LIS education by any governmental universities.
v. To measure percentages of LIS schools understates.
vi. To search out the using habit of Google Scholar Database by LIS Educators of India.
vii. To unveil the scenario of Indian LIS educators with GS profile & without GS profile.
viii. To gauge state wise and zone wise adoption level of GS profile of LIS educators.

Research Methodology

This study was distributed in two parts 1st part deals with distribution of LIS schools in India and the later part of the study focuses on the visibility of LIS educators in GS.
The study follows census method to identify all LIS schools run by the state or central government. As per this research, the online survey was conducted to extract those LIS schools. During this process, the primary source of material was the consolidated university list of UGC. Based on that list, the websites of all state regular & central universities were consulted to identify the LIS schools. The study eliminated those universities which were not providing LIS education. After confirmation, a list of LIS schools was prepared in tabulation format but from time to time it may be updated with addition. Based on that consolidated list of LIS schools, different datasheets mentioning state wise & region wise distribution of those schools were analytically elaborated in the result part.

However, the next part of the study exhibits visibility of LIS educators under GS. Firstly, a list of LIS educators was prepared. The name of faculties was collected from the departmental/university website and was cross-checked with the faculty list of VIDWAN-expert database of Information and Library Network (**INFLIBNET**). After collecting details of faculties those were arranged based on universities and states. Further, GS database was utilized to inspect the visibility of LIS educators. At the end, collected primary data were tabulated and analyzed using Microsoft Excel.

Results and Discussion:

I. Current LIS Schools in India:

Jain and Babbar unveil the history of LIS education in India by depicting about the first training course in Library Science in India was established at the Central Library, Baroda in 1911/12 by W. A. Borden and at Punjab University in 1915 by A. D. Dickinson. (11) Gradually other universities and library associations started setting up library schools one after another. From the year of 1929 and 1935 respectively Madras Library Association and Bengal Library Association started certificate courses. Subsequently, postgraduate courses also started in other universities, such as Andhra University (1935), Banaras Hindu University (1941) and University of Delhi (1947). The

University of Delhi started providing facilities for research leading to doctorate degrees. It was the first institution to start the M.Phil. courses in 1977.

Presently, after visiting the websites and going through the prospectus of state and central government regular universities of India an overview was drawn regarding the scenario of LIS education. In India, some states have multiple universities dealing with LIS education, and some states also here holding not a single states & central LIS Schools. Here different LIS Schools are providing different courses, some institutes provide the only diploma in library science, and some others provide BLISc, MLISc, Ph.D. to LIS students. 5 years integrated course of LIS is also being conducted by some universities. Not only governmental universities but also many private universities and government colleges are also taking part in LIS Education but those institutions are out of the scope of this paper.

University	Total
State & Central	470
LIS schools in India	129
Non-LIS Universities	341

Table 2. LIS Schools

In India out of all state and central universities only 108 state universities and 21 central universities and one special institute of central govt. named Documentation Research and Training Centre (***DRTC)*** (a wing of Indian Statistical Institute) are dealing with LIS education. The data shows only 27% of governmental universities dealing with LIS education rest of 73% of government universities are not possess any LIS department. **Table 2** depicts the totality of LIS schools and non-LIS universities.

Zone	States & UTs	State DLIS University (Regular + Open)	Central DLIS University
Northern	Chandigarh (**UT)**	1	0
	Delhi (**UT)**	0	1(open)+2(regular)=3
	Haryana	2	1
	Himachal Pradesh	0	1
	Jammu & Kashmir (**UT)**	2	0
	Punjab	2	1
	Rajasthan	2+1	0

	Uttarakhand	2+1	1
	Uttar Pradesh	8+1	3
North Eastern	Assam	3 +1	1
	Manipur	0	1
	Meghalaya	0	1
	Mizoram	0	1
	Tripura	1	1
Central	Madhya Pradesh	8+1	1
	Chhattisgarh	1+1	1
Eastern	Bihar	6 +1	1
	Odisha	6+1	0
	West Bengal	9+1	0
Western	Goa	1	0
	Gujarat	6+1	1
	Maharashtra	7+1	0
Southern	Andhra Pradesh	6	0
	Karnataka	10+1	0
	Kerala	2	0
	Puducherry	0	1
	Tamil Nadu	8+1	1
	Telangana.	2+1	0
Total	**28(States & UTs)**	**108**	**21**

Table 3. State-wise distributions of LIS schools in India

Note: One additional institution imparting LIS education considered for the present study is ISI (DRTC) (Karnataka State).

Table 3 reflects the state-wise distribution of LIS schools in India. Here LIS schools mean the department of library and information science of different universities. All state and central government universities which are providing education in regular or open mode only those universities are calculated under this table. This table also gives zone wise view of LIS education.

Zone	States/ UTs
North-Eastern	Arunachal Pradesh
	Nagaland
	Sikkim
Eastern	Jharkhand
Northern	Ladakh (UT)
Western (Island)	Dadra and Nagar Haveli and Daman and Diu (UT)
Non-zonal (Island)	Andaman and Nicobar Islands (UT)
	Lakshadweep (UT)

Table 4. Zone-wise List of States does not provide LIS Education

India is the integration of 28 states and 8 UTs out of these 36 entities 4 UTs and 24 states have LIS schools. 4 states and 4 UTs are not providing LIS education via any governmental universities. Those details are enlisted in **Table 4**. The data depicts in India 86% of states and 50% UTs can provide LIS education through single or multiple governmental universities but 14% of states and 50% UTs have not possessed any governmental university which can provide LIS education.

Those 86%States and 50% UTs having LIS schools are divided into three categories based on the number of LIS Schools under a state:

State	DLIS School (Regular + Open)
Uttar Pradesh	11+1
Karnataka	10+1
Tamil Nadu	9+1
West Bengal	9+1
Madhya Pradesh	8+1
Gujarat	7+1
Maharashtra	7+1
Andhra Pradesh	6
Bihar	6+1
Odisha	6+1

Table 5. List of States and LIS schools

1st category includes those states where the numbers of LIS schools are ≥6. **Table 5** depicts those states with details. 28% of states and UTs of India come under this table.

State/ UT	DLIS School (Regular + Open)
Assam	4+1
Delhi	3
Haryana	3
Punjab	3

Table 6. List of States and LIS schools

2nd category includes those states where the number of LIS schools between 3 to 5. **Table 6** shows those states. Only 11% of States & UTs come under this criterion.

State/ UT	DLIS School (Regular + Open)
Jammu and Kashmir	2

Rajasthan	2+1
Uttarakhand	2+1
Tripura	2
Chhattisgarh	2+1
Kerala	2
Telangana	2+1
Chandigarh	1
Himachal Pradesh	1
Manipur	1
Meghalaya	1
Mizoram	1
Goa	1
Puducherry	1

Table 7. List of States and LIS schools

3rd category includes those states where the number of LIS schools fewer than 2. Table **7** reflects the details of those states. 38% of states and UTs have 1 or 2 governmental universities dealing with LIS education.

Zone/Region	Govt. funded University	Govt. funded LIS University
Northern	140	32(23%)
North-Eastern	33	10(30%)
Central	40	13(32%)
Eastern	82	25(30%)
Western	57	17(30%)
Southern	118	33(28%)

Table 8. Zone wise percentage of LIS schools out of total universities under a zone

As per the “Act of State Recognition 1956” all states and UTs of India was divided into the northern, northeastern, southern, central, western, eastern zone. If we concentrate on the percentages of zone-wise LIS School then the data shows out of 140 Governmental universities of the central zone only 32% of them dealing with LIS education. Like northern zone one after another zone wise percentages of LIS schools out of zone wise total universities are mentioned in **Table 8.**

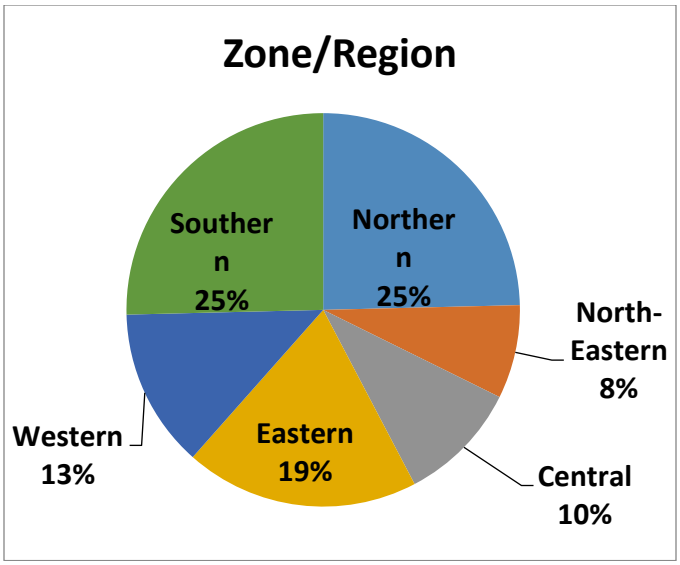


Figure 8. Zone/Region wise distribution of total LIS Schools in India

In another point of view if we take a zonal distribution of a total of 129 LIS schools then it shows the northern and southern part of India holds maximum LIS schools and the Northeastern part of India holds least LIS schools in percentage. **Figure 8** shows the zone wise distribution of total LIS schools.

II. ***Google Scholar Profile Adoption*:**

Today, most of the students and research scholars are consulting GS to solve the need of educational information [(12)] [(13)]. Therefore, publications that are absent from the consequences pages of Google Scholar may also result in large readership losses and maybe even a decline in citations [(14)]. Anne-Wil Harzing in claimed that GS can be used as a tool for citation analysis and described the benefits of GS over the ISI Web of Science along with the advantages and disadvantages of each tool [(15)]. Concerning all early mentioned benefits of GS, this study was taking place to procure the details of Indian LIS educators based on their visibility and absence in GS. This study was limiting own periphery to attain the accuracy in result. Here only LIS educators of central university and state regular university were considerate.

In Indian prospective LIS schools may be grouped into two types based on the nature of educators. One type of school employed permanent LIS educators however, another type of LIS schools relies on part-time educators. Some of the LIS schools also run by

regular and part time faculties both. Here in our country part time faculty includes guest educators and professionals working under library environment (Mostly librarian and asst. librarian). LIS schools, which were run by librarians their librarians have to play dual role. In our country most of the LIS schools have permanent faculty rest of 2% LIS schools does not possess a single permanent educator. However, 2% schools were run by librarians, asst. librarians, and guest faculties. Those guest faculties and librarians are not being included under this study. Many colleges are also dealing with LIS education but educators of those institutions are also out of the coverage. The study only focuses on regular permanent LIS educators recruited under LIS schools funded by central or state government.

All over India, a total of 327 permanent LIS educators scattered in 115 such LIS schools based on these numerals each LIS School possess 3 educators on average. However, the real data varies from the average by exhibiting inequality in faculty distribution over LIS schools. Some schools have large number of LIS educators **(Eg. Annamalai University, Tamilnadu state university run by 14 parmanent faculty),** whereas some LIS schools depend on single permanent LIS educator **(Eg. Guru Ghasidas central University, Chhattisgarh)** and very few LIS schools also ongoing with only part time or guest faculties even not a single permanent faculty was there **(Eg. T.M. university, Bihar state university).** However, the data carrying State-wise existence of LIS educators depicts top four states holding highest existence of LIS educators (more than 30 educators in each state), are Tamilnadu, West Bengal, Karnataka and Uttar Pradesh consecutively. These four states have 137 LIS educators who are populated over 38 LIS schools. Out of 137 LIS educators, 93 educators have their GS profile that denotes 68% of faculties of those states (LIS faculties are mostly populated over there) have their own Google Scholar profile. However, between these top four states only Tamilnadu holds 85% such LIS faculties who have GS profile. Whereas Karnataka with 76% GS profile holder comes second in this array but other two least GS profile holder states between these four states are Uttar Pradesh (60%) & West Bengal (47%) consecutively. In India, different LIS schools also exist in different states & UTs where cent percent LIS faculties acquire GS profile for showcasing own publications and measuring research output continuously. **As per Table 9** Chandigarh,

Rajasthan, Tripura, Mizoram, and Goa are those states and UTs where 100% LIS educators have active GS profile. Whereas, Manipur, a north eastern state of India provides LIS education through Manipur University (Central University) with 6 LIS educators but no one of them are visible under GS with profile, however all the LIS faculties of another north eastern state (Mizoram) are visible in GS with profile. In Goa, only Goa University (State University) come up with LIS schooling by a single faculty who possess GS profile. Such details of state wise & UT wise LIS faculties with visibility under GS database are figured under **Table 9**. One column of this table is dedicated to zone wise educator's GS adoption rate. Assigned column displays LIS educators who are recruited under different LIS schools of North-Eastern (NE) states have highest percentage of GS profile adoptability. Among 38 LIS educators 33 possess GS profile in NE states. Southern zone, where out of 96 LIS educators 71 have GS profile by the figure this zone ranked second highest in a row. Third rank holder zone Western have 33 faculties (LIS) out of them 24 holds individual GS profile. However, in northern states & UTs 59 educators (LIS) present with GS profile. States of Eastern & Central zone includes those LIS schools where educator's rate of GS profile adoptability is unsatisfactory.

ZONE	STATE/UT	LIS EDUCATOR	GS Profile HOLDER	Zone Wise GS Holder
Northern	Chandigarh	4	4(100%)	**64.83%**
	Delhi	13	8(62%)	
	Haryana	13	7(54%)	
	Himachal Pradesh	5	2(40%)	
	Jammu and Kashmir	10	6(60%)	
	Punjab	9	7(78%)	
	Rajasthan	7	7(100%)	
	Uttarakhand	NOT FOUND	NOT FOUND	
	Uttar Pradesh	**30**	18(60%)	
North-Eastern	Assam	15	9(60%)	**86.84%**
	Manipur	6	0	
	Meghalaya	6	3(50%)	
	Mizoram	7	7(100%)	
	Tripura	4	4(100%)	
Central	Madhya Pradesh	10	3(30%)	**35.71%**
	Chhattisgarh	4	2(50%)	
Eastern	Bihar	4	1(25%)	

	Odisha	14	7(50%)	**46.15%**
	West Bengal	**34**	16(47%)	
Western	Goa	1	1(100%)	**72.72%**
	Gujarat	14	8(57%)	
	Maharashtra	18	15(83%)	
Southern	Andhra Pradesh	12	6(50%)	**73.95%**
	Karnataka	**33**	25(76%)	
	Kerala	3	1(33%)	
	Puducherry	5	4(80%)	
	Tamil Nadu	**40**	34(85%)	
	Telangana.	3	1(33%)	
TOTAL	**28(States & UTs)**	**324**	**206**	

Table 9. Google Scholar profile of LIS Educators of India

While SCOPUS and WoS are the two most widely used and reputed A/I and citation databases, Google Scholar (GS) has also gained popularity as an academic search engine. However, GS is not a serious competitor with the other two when considered as an A/I and citation databases with heavy limitations in terms of analytics capabilities. The prime reason of its wider adoption by the global research community can be attributed to the fact that it is the freely available and open platform while the other two are proprietary and pay-walled. GS offers measurement/evaluation of research metrics in terms of citation and Indexes (h, g, i10, i20) both at individual and institutional level.

The finding of the present study reveals that the adoption status of GS profile is not impressive. Out of 324 LIS Educators, only 206 educators have GS profile.

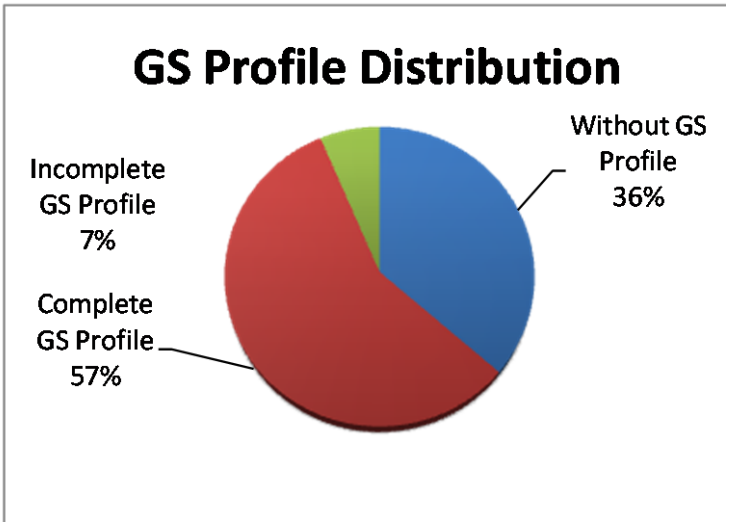


Figure 9. Distribution of LIS educators in Google Scholar

The study unveils three types of LIS educators in **Figure 9** based on the presence of their profile under GS database. **Figure 9** depicts 118 LIS educators (36%) don't possess their GS profile **(Without GS Profile)** however that does not mean those faculties articles (Documents) are not being indexed under GS database. All articles, those were published with the following criteria mentioned by GS for article inclusion, have been indexed and visible under GS. LIS educators without GS profile does not prove author's invisibility under GS as articles can also scattered under GS database without accommodating them into a profile. However, many LIS faculties don't possess GS profile but hold a large collection of cited documents indexed by GS **(Eg. Dr. Uma Kanjilal, Indira Gandhi National Open University, Delhi)**. Articles written by such educator (Non-GS) can be retrieved by searching under GS whereas all articles of any educator who does not possess GS profile, can't be clustered under a place for evaluating self-productivity in the aspect of total citation and indexes (h, i10) under GS.

Generally, more than half of the LIS educators in India have designed GS profile as per the pies of **figure 9.** Total 64% (206) LIS educators of concerned LIS schools can establish own presence under GS with profile. However, those 206 faculties puts together into the second category (**With GS profile**) of LIS educator based on the study. Further all those GS profiles are being divided into two types based on the completeness pattern. Whereas, Most of the LIS educators (187) who have GS profile (**Complete GS Profile)**, regularly they are updating own collection by following the process of adding, deleting and merging articles to attain & maintain the accuracy level of profile. Very few GS profile (21) of LIS educators can't attain the benchmark of accuracy level due to lack of nourishment. All those profiles **(Incomplete GS Profile)** are lower inclusive or over inclusive by nature due to negligence of profile holder. **Figure 9** accumulate all those LIS educators under the type of Incomplete GS profile. By nature, GS is higher inclusive, if an author chooses the option "**Apply update automatically**" under the setting of "**Article Update**" and totally rely of GS algorithm then profiles will be overloaded with wrong entries with citations. "Email me updates for review" is the right option to choose for errorless "Article Updates" under a profile. Lower inclusive GS profiles are being made due to negligence in adding new publications under profile. However, all higher inclusive & lower inclusive profiles can't

be considered as a proper source of scientometrics data. All GS profile holder has an ethical task to maintain own profile very carefully as it can reveal right scenario about an author.

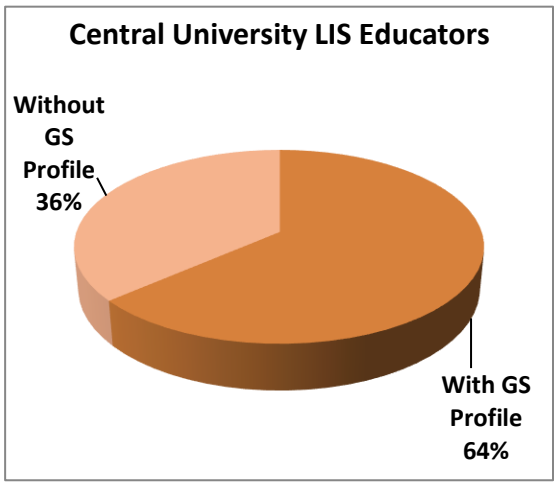


Figure 10: GS Profile visibility of LIS Educators (Central)

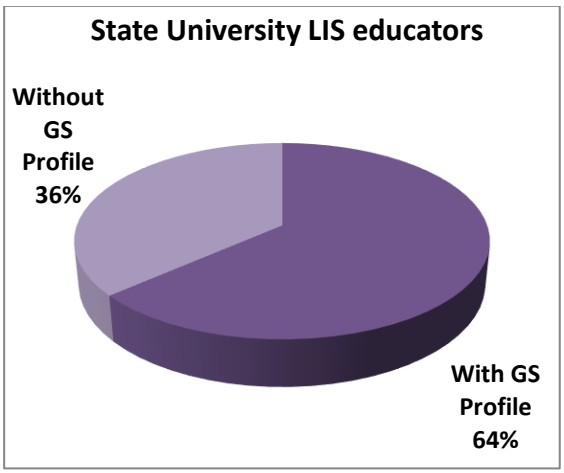


Figure 11: GS Profile visibility of LIS Educators (State)

In India, 88 LIS educators who are serving in 21 central regular/open universities between them 56 educators hold GS profile. Whereas 236 LIS educators are populated under 93 state regular universities dealing with LIS education, between them 150 faculties possess Google Scholar profile. Dissimilarity of LIS educators with GS profile are not prominently visible between central LIS schools and state regular LIS schools as in **Figure 10&11** the data depicts LIS educator's GS adoptability of two types of school (Central and state) are same (64%). However, in detail very minute differences present in central & state LIS schools, as per the data collected through the study 63.63% (Central LIS educators) & 63.55% (State LIS educators) GS profile holder consecutively exist under their periphery.

One special institution, DRTC, does not encompass under central or state LIS schools. Other than these 129 LIS Schools in India, that special institute successfully enlightens LIS students with 3 LIS educators out of them 2 have their GS profile.

Major Findings:

i. In India total 470 state and central universities are anticipated in higher education whereas about 129 state regular (excluded state open universities) and central universities (included central open university) are providing the degree up to masters in LIS education.

ii. Zone wise northern states are less font of LIS education as the figure exhibits out of 140 state regular & central governmental universities only 32 (23%) universities are providing LIS education. However, 32% universities of the states of central zone holding LIS schools.

iii. Zone wise distribution of all 129 LIS schools is not equal. States of norther zone (32 governmental LIS Schools) and southern zone (33 LIS schools) have highest number of LIS schools. North-eastern zone holds the lowest number of universities (10 such LIS schools) having LIS departments.

iv. State wise Karnataka have highest number of governmental LIS schools. Whereas, quadruple states of India not providing LIS education via a single number of state or central governmental universities are Arunachal Pradesh, Nagaland, Sikkim and Jharkhand.

v. In India about 206 LIS educators have GS profile out of 324 LIS faculties those are recruited under different state regular universities and central universities.

vi. There are no differences between central universities and state regular universities as the percentage shows both kind of universities have 64% faculty with GS profile.

vii. LIS educators of the North East states holding the highest visibility under GS as 87% of them holding GS profile. States of central region of India have those faculties who are less prominent under GS as only 36% LIS educators of central zone have GS profile.

Recommendations:

i. As GS gives open research metrics like citations, h-index, etc., it is highly recommended that all LIS faculty members should create, update and maintain their own GS profile.

ii. Academic libraries in India should conduct workshop and training programme for the LIS educators for sanitizing them about potential GS profile benefits.
iii. Efforts should be made to have dynamic group GS profile of individual LIS departments.
iv. As UGC contemplate bibliometric data from educator's GS profile for NIRF ranking of universities in India, it is beneficial for all educators & universities to create and maintain a proper GS profile.
v. Departmental websites may be linked with departmental group GS profile.
vi. All educators of a concerned department will be liable for entering exact article under group GS profile.
vii. GS profile creation is not one time process here profile holder should maintain own profile by continuously updation and deletion of entry to fetch righteous scientometrics data.
viii. Add institutional mail ID under GS profile to authenticate own profile and make that profile publicly available.

Conclusion

Educators are the main pillar of any subject. They hold the structure of the curriculum. In the case of Library and Information Science (LIS) education also educators are only liable for the development of the LIS curriculum. But as per NIRF, any educator's research productivity can be judged based on the total citation and indexes of own documents. Google Scholar is a freely available database by which the research productivity of LIS educators can be judged. But the result of this study shows only 57% of LIS educators have updated Google Scholar account. Instantly it is impossible to judge the research productivity of 43% of LIS educators who are recruited under different governmental universities as 7% of educators don't have an updated Google Scholar account and 36% of educators don't possess a Google scholar account. All those 43% of educators can never calculate their h Index, i10 index, and total citations accurately in Google scholar's point of view. Unavailability of a Google scholar account affects an educator's productivity calculation so the institutional ranking procedure of

NIRF is facing the hurdle of inaccuracy. So, it is needed for all educators to accumulate their articles under a Google scholar account to assess once research productivity and impact.

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